UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/662,407	09/16/2003	Jan-Erik Ekberg	4208-4114US1	9670

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EXAMINER
HO, HUY C

ART UNIT	PAPER NUMBER
2617	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/23/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

PTOL-90A (Rev. 10/06)

	Application No.	Applicant(s)
Office Action Summary	10/662,407	EKBERG ET AL.
	Examiner	Art Unit	
	Huy C. Ho	2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *16 September 2003*.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-52* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-52* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *16 September 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis

for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b),

by another filed in the United States before the invention by the applicant for patent or (2) a

patent granted on an application for patent by another filed in the United States before the

invention by the applicant for patent, except that an international application filed under the treaty

defined in section 351(a) shall have the effects for purposes of this subsection of an application

filed in the United States only if the international application designated the United States and

was published under Article 21(2) of such treaty in the English language.

2. Claims 1-4, 11-14, 17-23, 29-32, 35-52 are rejected under 35 U.S.C. 102(e) as being anticipated

by **Burr (WO 03/034664)**.

Consider claim 1, Burr teaches a system for performing device detection and service discovery

in a mobile ad hoc communications network (**see the abstract, figures 1A and 1B**), comprising:

a memory device (**Figure 2, number 225**); and

a processor disposed in communication with the memory device (**figure 2 number 220**), the

processor configured to:

conduct an inquiry of the mobile ad hoc communications network to discover at least one

nearby device, the inquiry including an indication that said at least one nearby device may include a

middleware layer (**figures 2, 3, 9A, page 4, lines 13-33, page 5 lines 1-11, page 6 lines 5-13**);

when the inquiry includes the indication that said at least one nearby device may include the middleware layer:

create a connection to said at least one nearby device (**fig 9A, page 11 lines 1-19**);

confirm whether said at least one nearby device includes the middleware layer (**figures 9A and 9B, page 4 lines 23-33, page 5 lines 1-11, page 11 lines1-19**); and

when said at least one nearby device includes the middleware layer: execute the middleware layer to perform application and service discovery (**fig 9B, page 11 lines 1-19**).

Consider claim 19, Burr teaches a method for performing device detection and service discovery in a mobile ad hoc communications network (**see the abstract, figures 1A and 1B**), comprising:

conducting an inquiry of the mobile ad hoc communications network to discover at least one nearby device, the inquiry including an indication that said at least one nearby device may include a middleware layer (**figures 2, 3, 9A, page 4, lines 13-33, page 5 lines 1-11**);

when the inquiry includes the indication that said at least one nearby device may include the middleware layer:

creating a connection to said at least one nearby device (**fig 9A, page 11 lines 1-19**);

confirming whether said at least one nearby device includes the middleware layer (**figures 9A and 9B, page 4 lines 23-33, page 5 lines 1-11, page 11 lines1-19**); and

when said at least one nearby device includes the middleware layer: executing the middleware layer to perform application and service discovery (**fig 9B, page 11 lines 1-19**).

Consider claim 37, Burr teaches a computer program product for performing device detection and service discovery in a mobile ad hoc communications network, comprising: a computer readable medium storing:

program code for conducting an inquiry of the mobile ad hoc communications network to discover at least one nearby device, the inquiry including an indication that said at least one nearby device may include a middleware layer **(figures 2, 3, 9A, page 4, lines 13-33, page 5 lines 1-11)**;

program code for creating a connection to said at least one nearby device when the inquiry includes the indication that said at least one nearby device may include the middleware layer **(fig 9A, page 11 lines 1-19)**;

program code for confirming whether said at least one nearby device includes the middleware layer when the inquiry includes the indication that said at least one nearby device may include the middleware layer **(figures 9A and 9B, page 4 lines 23-33, page 5 lines 1-11, page 11 lines1-19)**; and

program code for executing the middleware layer to perform application and service discovery when said at least one nearby device includes the middleware layer **(fig 9B, page 11 lines 1-19)**.

Consider claim 45, Burr teaches a system for performing device detection and service discovery in a mobile ad hoc communications network **(see the abstract, figures 1A and 1B)**, comprising:

means for conducting an inquiry of the mobile ad hoc communications network to discover at least one nearby device, the inquiry including an indication that said at least one nearby device may include a middleware layer **(figures 2, 3, 9A, page 4, lines 13-33, page 5 lines 1-11)**;

means for creating a connection to said at least one nearby device when the inquiry includes the indication that said at least one nearby device may include the middleware layer **(fig 9A, page 11 lines 1-19)**;

means for confirming that said at least one nearby device includes the middleware layer when the inquiry includes the indication that said at least one nearby device may include the middleware layer **(figures 9A and 9B, page 4 lines 23-33, page 5 lines 1-11, page 11 lines1-19)**; and

means for executing the middleware layer to perform application and service discovery when said at least one nearby device includes the middleware layer **(fig 9B, page 11 lines 1-19)**.

   Consider claim 2, The system of **claim 1,** Burr teaches wherein the middleware layer includes a service discovery protocol and at least one computer program, each computer program comprising at least one sequence of operational instruction **(page 5 lines 1-6, page 6 lines 5-13).**

   Consider claim 3, The system of **claim 1,** Burr teaches wherein when said at least one nearby device includes the middleware layer, the processor is further configured to: execute the middleware layer to launch applications and services **(fig 2, 4, 9B, page 11 lines 1-19).**

   Consider claim 4, The system of **claim 1,** Burr teaches wherein to conduct the inquiry, the processor is further configured to: send an inquiry request message to a coverage area within the mobile ad hoc communications network; and receive an inquiry response message from said at least one nearby device, the inquiry response message including the indication **(figures 2, 3, 9A, page 4, lines 13-33, page 5 lines 1-11).**

   Consider claims 11, 29, 41 and 49, The system of **claims 1, 19, 37 and 45,** Burr teaches wherein to create the connection, the processor is further configured to:

   send a paging request message to a coverage area within the mobile ad hoc communications network directed to said at least one nearby device **(page 2 lines 1-6, page 9 lines 7-13);** and

   receive a paging accept message from said at least one nearby device **(page 2 lines 1-6, page 9 lines 7-13).**

   Consider claims 12, 30 and 42, The system of **claims 1, 19 and 37,** Burr teaches wherein to confirm that said at least one nearby device includes the middleware layer, the processor is further configured to:

   send a recognition request message to said at least one nearby device **(figures 2, 3, 9A, page 4, lines 13-33, page 5 lines 1-11, page 2 lines 1-6, page 9 lines 7-13);**

receive a recognition response message from said at least one nearby device (**figures 2, 3, 9A, page 4, lines 13-33, page 5 lines 1-11, page 2 lines 1-6, page 9 lines 7-13**).

Consider claims 13 and 31, The system of **claims 12 and 30,** Burr teaches wherein receipt of the recognition response message confirms that said at least one nearby device includes the middleware layer (**figures 9A and 9B, page 4 lines 23-33, page 5 lines 1-11, page 11 lines1-19**).

Consider claims 14 and 32, The system of **claim 12 and 30,** Burr teaches wherein the recognition response message includes a confirmation that said at least one nearby device includes the middleware layer (**figures 9A and 9B, page 4 lines 23-33, page 5 lines 1-11, page 11 lines1-19**).

Consider claims 17, 35, 43 and 51, The system of **claims 1, 19, 37 and 45,** Burr teaches wherein to execute the middleware layer to perform application and service discovery, the processor is further configured to:

receive a notification message from said at least one nearby device, the notification message including a local application directory stored in said at least one nearby device (**figs 4, 7, page 5 lines 7-11, page 10 lines 1-17**);

store an update to a combined application directory, the update based on a comparison of the local application directory and the combined application directory (**page 5 lines 26-32, page 6 lines 1-2**);

send an update message to said at least one nearby device, the update message including an update portion of the combined application directory for updating the local application directory stored in said at least one nearby device (**page 6 lines 3-14**).

Consider claims 18 and 36, The system of **claims 17 and 35,** Burr teaches wherein the processor is further configured to:

launch a local application based on a reference in the combined application directory (**figs 2, 4, 9B, page 11 lines 1-19, page 5 lines 26-32, page 6 lines 1-2**); and

connect the local application to a counterpart application executing on said at least one nearby device (page 6 lines 3-10).

Consider claims 20 and 38, The method of **claims 19 and 37,** Burr teaches wherein the middleware layer includes a service discovery protocol and at least one computer program, each computer program comprising at least one sequence of operational instructions (see figs 9A, 9B and 10, page 11 lines 1-32).

Consider claim 21, The method of **claim 19,** Burr teaches wherein when said at least one nearby device includes the middleware layer, the method further comprises: executing the middleware layer to launch applications and services (fig 9B, page 11 lines 1-19).

Consider claim 22, The method of **claim 19,** Burr teaches wherein the conducting of the inquiry further comprises: sending an inquiry request message to a coverage area within the mobile ad hoc communications network; and receiving an inquiry response message from said at least one nearby device, the inquiry response message including the indication (**figures 2, 3, 9A, page 4, lines 13-33, page 5 lines 1-11, page 6 lines 5-13**).

Consider claim 39, The computer program product of **claim 37,** Burr teaches the computer readable medium further storing: program code for executing the middleware layer to launch applications and services when said at least one nearby device includes the middleware layer (**figs 2, 4, 9B, page 11 lines 1-19**).

Consider claim 40, The computer program product of **claim 37,** Burr teaches wherein the program code for conducting the inquiry further comprises:

program code for sending an inquiry request message to a coverage area within the mobile ad hoc communications network (**figures 2, 3, 9A, page 4, lines 13-33, page 5 lines 1-11, page 6 lines 5-13**); and

program code for receiving an inquiry response message from said at least one nearby device, the

inquiry response message including the indication (**figures 2, 3, 9A, page 4, lines 13-33, page 5 lines 1-11**).

Consider claim 44, The computer program product of **claim 43,** Burr teaches wherein the

program code for executing the middleware layer to perform application and service discovery further

comprises:

program code for launching a local application based on a reference in the combined application

directory (**figs 2, 4, 9B, page 11 lines 1-19, page 5 lines 26-32, page 6 lines 1-2**); and

program code for connecting the local application to a counterpart application executing on said

at least one nearby device (**page 6 lines 3-10**).

Consider claim 47, The system of **claim 45,** Burr teaches:

means for executing the middleware layer to launch applications and services when said at least

one nearby device includes the middleware layer (**fig 9B, page 11 lines 1-19**).

Consider claim 48, The system of **claim 45,** Burr teaches wherein the means for conducting the

inquiry further comprises:

means for sending an inquiry request message to a coverage area within the mobile ad hoc

communications network (**page 2 lines 1-6, page 9 lines 7-13**); and

means for receiving an inquiry response message from said at least one nearby device, the inquiry

response message including the indication (**page 2 lines 1-6, page 9 lines 7-13**).

Consider claim 50, The system of **claim 45,** Burr teaches wherein the means for confirming that

said at least one nearby device includes the middleware layer further comprises:

means for sending a recognition request message to said at least one nearby device (**figures 2, 3,

9A, page 4, lines 13-33, page 5 lines 1-11, page 2 lines 1-6, page 9 lines 7-13**); and

means for receiving a recognition response message from said at least one nearby device (**figures 2, 3, 9A, page 4, lines 13-33, page 5 lines 1-11, page 2 lines 1-6, page 9 lines 7-13**).

Consider claim 52, The system of **claim 51**, Burr teaches wherein the means for executing the middleware layer to perform application and service discovery further comprises:

means for launching a local application based on a reference in the combined application directory (**figs 2, 4, 9B, page 11 lines 1-19, page 5 lines 26-32, page 6 lines 1-2**); and

means for connecting the local application to a counterpart application executing on said at least one nearby device (**page 6 lines 3-10**).

Claim Rejections - 35 USC § 103

3.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4.   This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner

to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under

35 U.S.C. 103(a).

5.   The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966),

that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are

summarized as follows:

1.   Determining the scope and contents of the prior art.

2.   Ascertaining the differences between the prior art and the claims at issue.

3.   Resolving the level of ordinary skill in the pertinent art.

4.   Considering objective evidence present in the application indicating obviousness or

nonobviousness.

6.   **Claims 5-10, 15-16, 24-28 and 33-34** are rejected under 35 U.S.C. 103(a) as being unpatentable

over **Burr (WO 03/034664)** and further in view of **Nyman et al. (2003/0037033)**.

Consider claims 5 and 23, The system of **claims 4 and 22**, Burr fails to teach the inquiry request

message is a Bluetooth inquiry command, and the inquiry response message is a Bluetooth inquiry result

command, however, Burr noticeably teaches the sub-networks established among the Mobile ad-hoc

network devices (see **figs 1A, 6, page 9 lines 14-20**). In an analogous art, Nyman teaches the inquiry

request message is a Bluetooth inquiry command, and the inquiry response message is a Bluetooth

inquiry result command (see **pars [3], [5], [8], [13], [17]**). Therefore, it would have been obvious to a

person of ordinary skill in the art at the time of the invention was made to modify and incorporate Nyman

teachings into Burr invention in order to have the feature of the inquiry request message is a Bluetooth

inquiry command, and the inquiry response message is a Bluetooth inquiry result command.

Consider claims 6 and 24, The system of claim 5 and 23, Burr, as modified by Nyman, teaches wherein setting at least one bit in the Bluetooth inquiry result command to at least one predetermined value is the indication (pars [8], [16], [101], [181], [207], [247], [252]).

Consider claims 7 and 25, The system of claims 6 and 24, Burr, as modified by Nyman, teaches wherein said at least one bit includes at least one of the ad hoc networking aware bit, the location information bit, or the telephony capable bit (pars [8], [16], [101], [181], [207], [247], [252]).

Consider claim 8 and 26, The system of claim 5 and 23, Burr, as modified by Nyman, teaches wherein setting at least two bits in the Bluetooth inquiry result command to at least one predetermined value is the indication (pars [8], [16], [101], [181], [207], [247], [252]).

Consider claims 9 and 27, The system of claims 8 and 26, Burr, as modified by Nyman, teaches wherein said at least two bits includes at least two of the ad hoc networking aware bit, the location information bit, or the telephony capable bit (pars [8], [16], [101], [181], [207], [247], [252]).

Consider claims 10 and 28, The system of claims 8 and 26, Burr, as modified by Nyman, teaches wherein said at least two bits includes the ad hoc networking aware bit, and at least one of the location information bit, or the telephony capable bit (pars [8], [16], [101], [181], [207], [247], [252]).

Consider claims 15 and 33, The system of claims 14 and 32, Burr, as modified by Nyman, teaches wherein setting at least one bit in the recognition response message to at least one predetermined value is the confirmation (pars [8], [16], [101], [181], [207], [247], [252]).

Consider claims 16 and 34, The system of claim 12 and 30, Burr, as modified by Nyman, teaches wherein the recognition request message is a Bluetooth Service Discovery Protocol request and the recognition response message is a Bluetooth Service Discovery Protocol response (pars [8], [16], [101], [181], [207], [247], [252]).
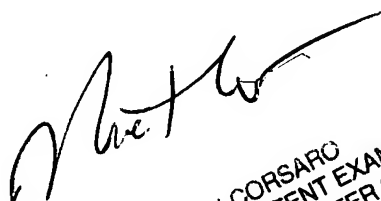
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should

be directed to Huy C. Ho whose telephone number is (571) 270-1108. The examiner can normally be

reached on Monday - Friday, 8:00 a.m. - 5:00 p.m., EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nick

Corsaro can be reached on (571) 272-7876. The fax phone number for the organization where this

application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application

Information Retrieval (PAIR) system. Status information for published applications may be obtained

from either Private PAIR or Public PAIR. Status information for unpublished applications is available

through Private PAIR only. For more information about the PAIR system, see http://pair-

direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer

Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR

CANADA) or 571-272-1000.

***

NICK CORSARO
SUPERVISORY PATENT EXAMINER
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